

DEPARTMENT OF TRANSPORTATION**DIVISION OF ENGINEERING SERVICES**

Office of Structural Materials

Quality Assurance and Source Inspection



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Contract #: 04-0120F4Cty: SF/ALA Rte: 80 PM: 13.2/13.9File #: 69.28**WELDING INSPECTION REPORT****Resident Engineer:**Pursell, Gary**Address:** 333 Burma Road**City:** Oakland, CA 94607**Report No:** WIR-001561**Date Inspected:** 16-Feb-2008**Project Name:** SAS Superstructure**OSM Arrival Time:** 700**Prime Contractor:** American Bridge/Fluor Enterprises, a JV**OSM Departure Time:** 1500**Contractor:** Zhenhua Port Machinery Company, Ltd (ZPMC), Changxing Island **Location:** Shanghai, China**CWI Name:** Xu Le Feng, Ye Yong Jun**CWI Present:** Yes No**Inspected CWI report:** Yes No N/A**Rod Oven in Use:** Yes No N/A**Electrode to specification:** Yes No N/A**Weld Procedures Followed:** Yes No N/A**Qualified Welders:** Yes No N/A**Verified Joint Fit-up:** Yes No N/A**Approved Drawings:** Yes No N/A**Approved WPS:** Yes No N/A**Delayed / Cancelled:** Yes No N/A**Bridge No:** 34-0006**Component:** Tower Mock-ups and OBG**Summary of Items Observed:**

The Quality Assurance (QA) Inspector Gregory Bertlesman arrived on site at the Zhenhua Port Machinery Company facility on Changxing island, China to periodically monitor welding and Quality Control functions. While on site the Quality Assurance Inspector observed and/or discovered the following.

Tower Fabrication Facility

The Quality Assurance Inspector witnessed ZPMC performing magnetic particle inspection to a corner stiffener root pass within the 77M Mock-up.

The Quality Assurance Inspector observed ZPMC welding a corner stiffener at skin plates B and C utilizing the flux cored arc welding process in the horizontal position.

The Quality Assurance Inspector observed no cutting of material taking place on the cutting table.

Bay 1

The Quality Assurance Inspector observed ZPMC squaring the length of closed ribs on the milling machine. Eight ribs were stacked and being milled simultaneously. The Quality Assurance Inspector measured the ribs to be approximately 8.5 meters in length, 12 millimeters in thickness and 790 millimeters in width. The Quality Assurance Inspector observed ZPMC drilling bolt holes in the closed ribs. ZPMC was observed beveling closed ribs in preparation for the partial joint penetration connection to the deck plate. ZPMC Quality Control would measure the bevel angle and record the values on the closed rib. The general appearance of the bevel appeared to be rough and contain sharp edges. After beveling, ZPMC was observed bending the closed ribs and performing

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dimensional inspections.

Deck Panel Fit-up

The Quality Assurance Inspector observed ZPMC fitting up and tack welding of closed U ribs to deck plate DP-057-001, utilizing the flux cored arc welding process to produce the tack welds in the horizontal position.

Deck Panel DP-058-001

The Quality Assurance Inspector observed the production welding of Deck Panel DP-058-001. Prior to welding the Quality Assurance Inspector observed surfaces to be welded did not conform to workmanship requirements for preparation of base metal. Groove faces of closed ribs welded to deck plate were not smooth or uniform and were not free from rust. Per AWS D1.5, Section 3.2.1: "surfaces to be welded shall be smooth, uniform, and free from fins, tears, cracks, and other discontinuities which would adversely affect the strength of the weld. The Quality Assurance Inspector generated a incident report pertaining to the discrepancy. The welding parameters were recorded in an on site log for future review.

Bay 2

114M Tower Mock-Up Upper Shaft Assembly

The Quality Assurance Inspector observed ZPMC utilizing five hydraulic jacks to aid in the fit-up of several internal bolted connection plates. An approximately 6 millimeter gap was observed between an internal bolted connection plate and a internal longitudinal stiffener prior to utilizing a 10 ton jack as illustrated in the digital photograph below.

The Quality Assurance Inspector observed ZPMC performing fit up operations of an exterior bolted connection plate at skin A.

The Quality Assurance Inspector observed ZPMC drilling 30 mm holes in various bolted interior stiffener connections.

Bay 8

The Quality Assurance Inspector observed ZPMC personnel performing heat straightening operations to diaphragm plate P546 for the 43M elevation. ZPMC Quality Control was observed monitoring the heat with an infra-red temperature indicating device.

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Summary of Conversations:

As stated in the contents of the above report.

Comments

This report is for the purpose of determining conformance with the contract documents and is not for the purpose of making repair or fit for purpose recommendations. Should you require recommendations concerning repairs or remedial efforts please contact Mazen Wahbeh, (818) 292-0659, who represents the Office of Structural Materials for your project.

Inspected By:	Bertlesman,Greg	Quality Assurance Inspector
Reviewed By:	Cuellar,Robert	QA Reviewer
